APEX Report

Time Meeting, Feb. 21, 2017

2017 New Proposals

- Align Hadron and Electron Beames I. Pinayev 2*4 =8 hours
- Commissioning of IR Diagnostics I. Pinayev (2 *4 =8 hours)
- Reach Full Power Electron Beam I. Pinayev (2*6 = 12 hours)
- CeC System Fault Studies I. Pinayev (4 hours)
- Propagate Electron Beam to High Power Dump I. Pinayev (6 hours)

- precision decoupling Blaskiewicz Proposed 4 hours
- Fighting instability at low energy by modulating chromaticity Chuyu Liu 4 hours
- Polarization response to changes in intrinsic resonance configuration Vahid Ranjbar 4 hours
- Polarization Lifetime response to Intrinsic Resonance/Emittance Vahid Ranjbar 4 hours
- Polarization Lifetime response Vahid Ranjbar 4 hours

Here totally : 28 hours

E-lens Related Studies

Xiaofeng's estimation (32 hours), subject to change

- APEX measurements of lattice: b*, belens, Df(IP8 to e-lens), Q” [6 hours] a mini ramp will be developed and could be tested at the end of any APEX which has full energy.
- APEX measurement of tune distribution change due to e-lens [6 hours]
- Test HOBBC at 255 GeV – max xp with 2x BB and without and with e-lens [8 hours]
- Measurement of BB Resonance Driving Terms -- RDT measurement in RHIC with AC dipole [4 hours]
- Test of beam-beam stability with e-lens [4 hours]
- APEX measurement for eRHIC effect of modulated e-beam (current, shape, orbit) on p-beam [4 hours]

Here totally 32 hours

Other Experiments

15-15 Spin Flipper P. Oddo, V. Ptitsyn 10 hours

- 15-12 Measurement of transverse beam halo diffusion rates with collimator scans
- Guillaume Robert-Demolaize 2*2 = 4 hours ?
- 15-08 Optimization of figure of merit in presence of electron clouds

  Minty
- 15-06 Circumference lengthening V. Ptitsyn 2*3 = 6 hours ?
- 15-04 Local coupling measurement along the ring Y. Luo 0 hours
- 13-02 Transverse impedance of RHIC M. Blaskiewicz 2* 2 = 4 hours ?
- 12-22 Test of Head-Tail Chrom. measurement using BBQ Vahid Ranjbar
- 11-26 Study of bunch length limits, V. Ptitsyn 2*3 =6 hours ?

Here totally 30 hours

Summary

The total APEX beam time request for 2017 run is about:

90 hours

APEX goes bi-weekly, each session 16 hours, probably we at least need

6 sessions

What are not included here:

1) CeC-PoP tests which does not need RHIC beam, totally 30 hours
2) new proposals coming in during the run
3) probably I missed beam time requests from some experiments
4) mostly important down time of machine during APEX session